WHAT IS CLAIMED IS:

1. A system for controlling an interface emulsion layer and a volume of mud forming within a desalter vessel, the system comprising:

at least one piping circuit having a plurality of nozzles and being located in a brine water layer residing within the desalter vessel;

each nozzle in said plurality of nozzles being oriented toward an interior portion of said desalter vessel at an oblique angle in at least one of a horizontal plane and a vertical plane relative to a center line of said piping circuit.

2. A system according to Claim 1 wherein the orientation of said plurality of nozzles is effective for creating a horizontal and vertical rotation of the brine water layer to agitate a lower surface of an interface emulsion layer residing between the brine water layer and an oil layer.

3. A system according to Claim 1 wherein said oblique angle is between about 15° and 60° for each nozzle lying on a straight-run portion of said at least one piping circuit.

4. A system according to Claim 3 wherein said oblique angle is about 45°.

5. A system according to Claim 1 further comprising a means for recycling a volume of the brine water layer to the at least one piping circuit.

6. A system according to Claim 1 further comprising each nozzle being a nozzle selected from the group consisting of a drilled passageway and a short tubular member.

7. A system according to Claim 1 further comprising an external periphery of said piping circuit lying near to and opposite an internal periphery of said desalter vessel.

8. A system according to Claim 1 wherein a water velocity through each nozzle is in a range of 1 to 3 fpm.

9. A system according to Claim 1 wherein at least one piping circuit is located in a horizontal plane situated in an upper two-thirds portion of the brine water layer.

10. A method for controlling an interface emulsion layer and a volume of mud forming within a desalter vessel using the system of Claim 1.

What is claimed is:

1. A method for controlling a height of an interface emulsion layer within an oil treatment vessel, the method comprising the step of:

inducing a first and a second rotation entirely within a brine water layer of the oil treatment vessel, the first rotation being in a horizontal plane, the second rotation being in a vertical plane, the first and second rotations together forming a first series of rotating plane toroidal flows throughout the brine water layer, the rotating plane toroidal flows being at a velocity that permits the interface emulsion layer to continue residing above the brine water layer.

2. A method according to claim 1 further comprising the step of forming a second series of rotating plane toroidal flows throughout the brine water layer, one of said first and second series being an upper toroidal flow and one being a lower toroidal flow.

3. A method according to claim 1 wherein the oil treatment vessel includes a plurality of nozzles arranged about an oblong-shaped piping circuit located in the brine water layer of the oil treatment vessel.

4. A method according to claim 1:

wherein the plurality of nozzles are oriented oblique to the piping circuit.

5. A method according to claim 4 wherein an angular orientation of each nozzle in the plurality of nozzles is at an angle of between about 15° and 60° in a horizontal plane and at a downward angle of between about 15° and 60° in a vertical plane.

6. A method according to claim 1 further comprising the step of recycling a volume of water from the oil treatment vessel, wherein the first and second rotations include the recycled water.

7. A method according to claim 1 further comprising the step of monitoring a level of the interface emulsion layer.

8. A method according to claim 1 further comprising the step of adjusting a velocity of the first and second rotations in response to a level of the interface emulsion layer.

9. A method according to claim 8 wherein said step of adjusting causes the interface emulsion layer to destabilize.

10. A method according to claim 8 wherein said step of adjusting causes the interface emulsion layer to stabilize.

11. A method according to claim 1 wherein a water velocity through each nozzle in the plurality of nozzles is in a range of 1 to 3 fpm.